1. A method for optimizing a wireless electromagnetic communications network, comprising:

a wireless electromagnetic communications network, comprising

a set of nodes, said set of nodes further comprising,

at least a first subset wherein each node is MIMO-capable, comprising:

an antennae array of M antennae, where M ≥ one,

a transceiver for each antenna in said spatially diverse antennae array,

means for digital signal processing to convert analog radio signals into digital signals and digital signals into analog radio signals,

means for coding and decoding data, symbols, and control information into and from digital signals,

diversity capability means for transmission and reception of said analog radio signals,

and,

means for input and output from and to a non-radio interface for digital signals;

said set of nodes being deployed according to design rules that prefer meeting the following criteria:

said set of nodes further comprising two or more proper subsets of nodes, with a first proper subset being the transmit uplink / receive downlink set, and a second proper subset being the transmit downlink / receive uplink set;

each node in said set of nodes belonging to no more transmitting uplink or receiving uplink subsets than it has diversity capability means;

each node in a transmit uplink / receive downlink subset has no more nodes with which it will hold time and frequency coincident

communications in its field of view, than it has diversity capability;

each node in a transmit downlink / receive uplink subset has no more nodes with which it will hold time and frequency coincident communications in its field of view, than it has diversity capability;

each member of a transmit uplink / receive downlink subset cannot hold time and frequency coincident communications with any other member of that transmit uplink / receive downlink subset;

and,

each member of a transmit downlink / receive uplink subset cannot hold time and frequency coincident communications with any other member of that transmit downlink / receive uplink subset;

transmitting, in said wireless electromagnetic communications network, independent information from each node belonging to a first proper subset, to one or more receiving nodes belonging to a second proper subset that are viewable from the transmitting node;

processing independently, in said wireless electromagnetic communications network, at each receiving node belonging to said second proper subset, information transmitted from one or more nodes belonging to said first proper subset;

and,

dynamically adapting the diversity capability means and said proper subsets to optimize said network.

2. A method for optimizing a wireless electromagnetic communications network, comprising:

a wireless electromagnetic communications network, comprising

a set of nodes, said set of nodes further comprising,

at least a first subset wherein each node is MIMO-capable,
comprising:
a spatially diverse antennae array of M antennae, where M ≥ two,
a transceiver for each antenna in said spatially diverse antennae array,
means for digital signal processing to convert analog radio signals into digital signals and digital signals into analog radio signals,
means for coding and decoding data, symbols, and control information into and from digital signals,
diversity capability means for transmission and reception of said analog radiosignals,
and,
means for input and output from and to a non-radio interface for digital signals;

said set of nodes being deployed according to design rules that prefer meeting the following criteria:

said set of nodes further comprising two or more proper subsets of nodes, with a first proper subset being the transmit uplink / receive downlink set, and a second proper subset being the transmit downlink / receive uplink set;
each node in said set of nodes belonging to no more transmitting uplink or receiving uplink subsets than it has diversity capability means;
each node in a transmit uplink / receive downlink subset has no more nodes with which it will hold time and frequency coincident communications in its field of view, than it has diversity capability;
each node in a transmit downlink / receive uplink subset has no more nodes with which it will hold time and frequency coincident

communications in its field of view, than it has diversity capability;

each member of a transmit uplink / receive downlink subset cannot hold time and frequency coincident communications with any other member of that transmit uplink / receive downlink subset;

and,

each member of a transmit downlink / receive uplink subset cannot hold time and frequency coincident communications with any other member of that transmit downlink / receive uplink subset;

transmitting, in said wireless electromagnetic communications network, independent information from each node belonging to a first proper subset, to one or more receiving nodes belonging to a second proper subset that are viewable from the transmitting node;

processing independently, in said wireless electromagnetic communications network, at each receiving node belonging to said second proper subset, information transmitted from one or more nodes belonging to said first proper subset;

and,

dynamically adapting the diversity capability means and said proper subsets to optimize said network.

3. A method as in claim 1, wherein dynamically adapting the diversity channels and said proper subsets to optimize said network further comprises:

using substantive null steering to minimize SINR between nodes transmitting and receiving information.

4. A method as in claim 1, wherein dynamically adapting the diversity channels and said proper subsets to optimize said network further comprises: